EMERGENCY SUPPORT FUNCTION (ESF) 2

COMMUNICATIONS

LEAD COORDINATING AGENCY: Wisconsin Emergency Management

SUPPORT AGENCIES: Department of Administration (DOA)
Department of Military Affairs (DMA)
Department of Transportation (DOT)
Department of Natural Resources (DNR)
Department of Agriculture, Trade & Consumer Protection (DATCP)
Department of Justice (DOJ)
Educational Communications Board (ECB)
Department of Health & Family Services (DH&FS)
State Capitol Police
National Weather Services
Wisconsin Amateur Radio Emergency Service (ARES)/Radio Amateur Civil Emergency Service (RACES)

FEDERAL ESF COORDINATING AGENCY:

Department of Homeland Security/National Communications System

I.   INTRODUCTION

A.   Purpose

The purpose of this Emergency Support Function (ESF) is:

1.   To serve as a basis for planning the coordination of communication assets in the State in accordance with the State Emergency Response Plan.

2.   To provide guidance for rapid alerting and warning to key state and local jurisdictions officials and the general public of an impending or occurring natural or technological emergency or disaster.

3.   To provide guidance for organizing, establishing, and maintaining the telecommunications and information system capabilities necessary to meet the operational requirements of state and local jurisdictions in responding to, and recovering from, emergencies and disasters.

4.   To develop guidance and procedures to ensure Emergency Management staff at the state, local and federal levels have accurate and timely information on which to base their decisions and response actions.

II.   POLICIES

A.   The State of Wisconsin Emergency Response Plan as described by this ESF, will guide all state telecommunications, information systems, and warning activities related to mitigating, preparing for, responding to, and recovering from emergencies or disasters.

B.   Telecommunications, information systems and warning support requirements which cannot be met at the local level will be escalated upward for resolution at the state level by Wisconsin Emergency Management (WEM) and appropriate state agencies. If needed, federal assistance will be requested.

C.   State agencies have developed Continuity of Operations Plans (COOP) that address telecommunications/information system contingency plans, disaster recovery/business resumption plans and information system security plans commensurate with the agency's requirements and needs.

III.   <u>CONCEPT OF OPERATIONS</u>

A.   General

1.   Reliable telecommunications and information system capabilities are necessary at all levels of government for day-to-day communications, warning of impending events, response and recovery operations, search and rescue operations, and coordination with other state and public safety agencies. Such capabilities must be available to the state for operations from the primary or alternate EOC as well as any other location selected because of existing conditions at the time of the emergency or disaster.

2.   The federal government, under the National Response Plan (NRP) and the National Security Emergency Preparedness procedures may, through the Federal Emergency Management Agency (FEMA), provide temporary emergency communications assistance to state and/or local jurisdictions prior to or during an emergency or disaster.

3.   Emergency communication between local jurisdictions and the federal government, as well as, with other state agencies is provided through the state EOC communications facility.

4.   The Emergency Alert System (EAS) operates through designated radio, television stations and cable systems and is intended to provide federal, state, and local jurisdictions with the means to disseminate prompt alerting and warning information to the general public (See Wisconsin EAS Map in Appendix 1 Tab I). NOAA National Weather Service radio transmitter will augment the warning and information process (See Map in Appendix 1 Tab C Wisconsin NOAA Weather Radio Network).

5.   The State communications and warning capabilities presently available are:

      a.   Telephone Systems

         (1)   WEM 24-hour Hotline (1-800-943-0003)

WEM operates a dedicated 24-hour hotline system for single-point of contact notification for both emergency information and hazardous materials incidents. During normal working hours (M-F 8AM to 4:30PM) the hotline is answered in WEM HQ Office in Madison. After normal working hours and on holidays, the hotline is answered by State Warning Center I, which is located at District 1, Wisconsin State Patrol. All after-hours calls are referred to the WEM Duty Officer for disposition.

The 24-hour hotline system utilizes the standard phone system on a PBX. Thus, if the phone system or associated equipment fails, the hotline is not operable.

Specific operational information and procedures are located in the "Emergency Operating Center (EOC) Communications Equipment and Operating Procedures" manual located in the State EOC.

(2)   State Patrol microwave telephone

A microwave telephone (red phone) is located in all Wisconsin State Patrol (WSP) District Offices, WEM Regional Offices and the State EOC. It is primarily, a communications device for the WSP but is available for WEM use. It is operated and maintained by the WSP and provides a link for WEM to contact the counties if there are commercial phone line problems.

Specific operational information, procedures and phone numbers are located in the "Emergency Operating Center Communications Equipment and Operating Procedures" manual located in the State EOC.

(3)   NAWAS (National Warning System, intra-state landline-voice)

The National Warning System (NAWAS) is used primarily for disseminating warnings concerning possible threats of an attack to the nation and is the primary means of disseminating this information to state and local jurisdiction officials within the state. The federal government has permitted and encourages each state to employ NAWAS for disseminating warnings concerning the above hazards.

For Wisconsin, the Warning Center I is operated 24-hours a day by Wisconsin Emergency Management (WEM) and the Wisconsin State Patrol (WSP) Communications Center. Wisconsin State Patrol District 1 is the Primary Warning Point (Wisconsin Warning Center 1) and WEM as the Alternate Warning Point (Wisconsin Warning Center 2).

The state portion of the NAWAS consists of the WEM Headquarters, seven State Patrol District headquarters, five National Weather Service offices and 28 primary county warning points (normally, located in the county 911 centers). Warnings to the 44 non-NAWAS counties are done using the most expedient method by the NAWAS counties.

Specific operational information and procedures are located in the "Emergency Operating Center Communications Equipment and Operating Procedures" manual located in the State EOC.

(4)   Private and leased lines

    a)   Dial-Select System

        The Dial Select System is a dedicated party line system used by <u>Point Beach and Kewaunee Nuclear Power Plants</u> and is the primary means for notification and communication between the Manitowoc and Kewaunee County's and State EOC.

        The priorities for the Dial Select System are:

        1.   Siren Activation
        2.   Event Notification/Protection Action Recommendation Upgrade
        3.   Status Update
        4.   General Information/Coordination

        Dial-Select phones (beige, in color) are located in the EOC communications room and at the reception desk. There are also active jacks in the EOC at the Operations Officer area and in room 105 (SRC) so phones can be hooked up if needed.

    b)   City Watch System

        The City Watch System, a computer generated call system using commercial phone lines, is used by the Prairie Island Nuclear Generating Plant to notify the State of Minnesota, State of Wisconsin, Pierce County and affected Minnesota counties of an incident. For this system, NAWAS is used as the backup notification system.

        The City Watch System uses a two-step process to notify:

1.   Incident notification is faxed to all recipients (for Wisconsin this includes the State EOC; Reception desk; State Patrol District 1 and Pierce County).

2.   A conference call is made by the plant communicator to all FAX recipients to confirm the Notification Form was received. If the form was received, recipient can hang up; if form was not received, recipient gets information from plant communicator.

        The City Watch phones (black, in color) are located in the EOC communications room and at the reception desk. There are also active jacks in the EOC at the Operations Officer area and in room 105 (SRC) so phones can be hooked up if needed.

        Specific operational information and procedures for both phone systems are located in the "Emergency Operating Center Communications Equipment and Operating Procedures" manual located in the State EOC.

(5)   Commercial telephone system

        The Wisconsin EOC has operational lines for emergency use and jacks for installing 8 additional lines in room 105, including Dial-select and City Watch. Several critical phones lines are on the Cellular Locater Automatic Routing (CLAR) system, which allows them to be forwarded to cell phones.

        The phone system is maintained by DMA (internal) and SBC (external).

        Specific operational information and procedures for both phone systems are located in the "Emergency Operating Center Communications Equipment and Operating Procedures" manual located in the State EOC.

(6)   Facsimile

        WEM uses a number of facsimile machines programmed for transmitting to individual counties/agencies or pre-designated groups.

        EOC incoming facsimile machines are programmed to search for next available machine, thus, if the machine that is dialed into is busy, the message is forwarded to the next

machine, and so on, until a machine can accept the transmission.

Specific operational information and procedures for the facsimile system is located in the "Emergency Operating Center Communications Equipment and Operating Procedures" manual located in the State EOC.

(7)   Cellular Phones

WEM currently has cellular phones assigned to a majority of the WEM staff.

(8)   Satellite Phones

WEM has acquired 10 satellite telephones. A SAT phone is assigned to each WEM Regional Director, the Emergency Police Services Deputy Director, WEM Central Headquarters and the Mobile Command Center (MCC) and ACU-1000 trailers. All SAT phones have ground cellular embedded as secondary call capability.

b.   Communications Systems

(1)   WEM Local Government Radio

County government radio systems can vary by frequency, sub-audible tones and in some cases encryption usage. To enhance state access to local governments, WEM and State Patrol can reach the county sheriffs office via radio from the closest State Patrol District Headquarters, using a "point-to-point" frequency of 155.370 MHz, monitored by all counties. In addition, WEM has seven permanently installed VHF repeaters statewide and two portable repeaters for emergency communications and one or more system combinations could be set up for communications in an emergency. State Patrol vehicles are equipped with multi-channel VHF Hi-Band Mobile radios for communicating with District Headquarters and other vehicles. (see Appendix 1 Tab A - Priority Channels For Mutual Aid, Interoperability and Direction and Control; Tab D State-Owned Tower Sites; Tab G Wisconsin WISPERN)

(2)   State Patrol Radio

The State Patrol Radio system is operated by the Wisconsin Division of State Patrol and includes high-band base-to-mobile communications. WEM can access the system through telephone communication to Warning Center 1 (District #1, DeForest). The system offers statewide coverage, although dispatching occurs on a

district basis through each State Patrol District Office. (see Appendix 1 Tab H Wisconsin State Patrol Tower Sites)

(3)   Secure Video Teleconference Communications

Secure Video Teleconference Communications equipment, including the Secure Telephone (STU-III), is located in DMA HQ primarily for secure communication with the other states and the Department of Homeland Security. Special security clearance is necessary for access to this equipment or its use.

(4)   Emergency Alert System (EAS) Relay Network (Public Safety radio and the broadcast industry).

WEM has access to the statewide EAS. Emergency broadcasts can be made from WEM and originate over the stations of the State Educational FM radio network. Commercial radio stations have the option to pick up and rebroadcast EAS messages from the State system. This system is tested regularly.

While these systems would be available in any event, they generally are not used. County emergency management works out individual agreements with commercial radio (FM & AM) stations serving the affected area. While the system is statewide there are many areas that are not covered by the EAS.

(5)   Wisconsin Amateur Radio System: (which includes: RACES (Radio Amateur Civil Emergency Services), ARES (Amateur Radio Emergency Services.

The Wisconsin Amateur Radio System consists of volunteer amateur radio operators who have agreed to participate in emergency situations and has statewide coverage with over 1300 operators. Amateur radio is used as a back up to other systems or as a supplement to state or local communications and is activated on an informal fan-out from the Ham Shack located in the State EOC.

Primarily, Amateur Radio utilizes either high frequency single side-band voice devices used primarily for point-to-point, or VHF mobile and hand-held portables operated through repeaters for local communication. High-frequency elements are tested twice a-week and VHF elements are used regularly. (see Appendix 1 Tab E Volunteer Emergency Communications Support (VECS) Plan, March 2004)

(6)   Federal Emergency Management Agency National Radio

System (FNARS), a high frequency radio system.

A FEMA high frequency radio is located at WEM EOC. The FNARS radio has voice capability for long distance common telephone, as well.

(7)   Mobile Command Center and associated equipment.

The Mobile Command Center is intended to provide local communications capability in the event of an emergency or disaster.   It can be operated as a stand-alone communications center, thus allowing the county 911 center to operate normally during disaster events.

The Mobile Command Center and ACU Trailer are both equipped with ACU-1000 radio interconnect devices. The ACU-1000 technology allows for the cross connect of dissimilar public safety radio systems on a short notice. The permanently installed radios cover the 150-160 MHz bands and 800MHz conventional and trunked systems. It is also able to cross connect cell phones to public safety radio. In support of those units are a mobile tower system and mobile repeaters.

(8)   Other Radio Systems

WEM can call upon independent radio systems operated by the DNR, Civil Air Patrol, the Wisconsin National Guard and the American Red Cross, if needed.

c.   Computer Systems

(1)   National Weather Service Emergency Management Weather Information Network (EMWIN) weather data system.

EMWIN captures all national Weather Service text data pertinent to Wisconsin. The system provides a "hard copy" of weather information on demand.

(2)   Department of Justice's (DOJ), Transaction of Information for Management of Enforcement (TIME) System.

The TIME System is operated by the Wisconsin Department of Justice and consists of a central computer facility; terminals located at WEM and approximately 2850 other outlets in Wisconsin law enforcement agencies (city police, county sheriffs, State Patrol, and FBI). It operates statewide over dedicated telephone lines and is used primarily to transmit law enforcement information. TIME is used by WEM during an emergency to transmit and receive hard copy administrative traffic.   TIME provides

automated severe weather alerts (tornado watch/warning, severe thunderstorm watch/warning and FEMA flood watch/warning) to counties.

6.   The DHS/FEMA communications capabilities presently available are:

Mobile Emergency Response Support (MERS) and Mobile Air Transportable Telecommunications System (MATTS).

The MERS and MATTS are communications support elements that can be driven or airlifted to a disaster location. They provide mobile telecommunications, operational support, life support and power generation assets for the on-site management of disaster and all-hazard activities. The MERS and MATTS support local, state and federal responders.

B.   Organization

The ESF 2, Communications consists of WEM's Communications and Warning Section and representatives from the telecommunications providers**,** state agencies, and the National Response Plan ESF 2.

C.   Procedures—Manuals

1.   State Emergency Management NAWAS Handbook, dated March 2001, with changes, maintained separately.

2.   State of Wisconsin Emergency Alert System Operations Plan, dated October 2004, maintained separately.

3.   State Emergency Operations Officer Standard Operating Procedures, maintained separately.

4.   State Emergency Management Communications Room Standard Operating Procedures, maintained separately.

5.   State Radio Amateur Civil Emergency Services (RACES) Plan, 2004, with changes, maintained separately.

D.   Mitigation Activities

WEM staff participate in regular meetings with respective county, state and private agencies and groups dedicated to refining and enhancing the agency's telecommunications and information capabilities for both day to day operations and for emergency response situations. Some of the systems to improve and enhance the division's capabilities, which have been completed, include:

- Installation of ACU 1000's in both mobile command centers
- Purchase and deployment of an 80 ft. portable antenna/tower and trailer
- Acquisition of 10 satellite phones
- Purchase of new tow vehicles for the MCC's and portable antenna/tower

- Installation of additional three repeaters throughout the state to improve communications coverage

E.   Preparedness Activities

1. Pre-identify communications facilities, equipment, and personnel in each region that could be made available to support response and recovery efforts.

2. Assess selected sites to store pre-staged communications assets for rapid deployment into the affected area.

3. Encourage and promote interoperability among state and local jurisdictions.

4. Conduct regularly scheduled communications tests and drills with NWS, State Patrol communications centers, and other pre-designated emergency communications support facilities to insure operational readiness and procedural familiarity.

5. Conduct monthly checks of all telecommunications and IT equipment and systems in the state EOC.

6. Utilize EOC telecommunications and IT equipment as an integral part of all communications systems in nuclear power plant exercises and state EOC participation WMD exercises.

F.   Response Activities

1. Identify the actual and planned actions of commercial telecommunications companies to restore services.

2. Determine what assets are available and nearest to the affected area(s) by each ESF 2 support agency and the time frame in deploying those assets.

3. Coordinate the acquisition and deployment of communications equipment, personnel, and resources to establish temporary communications capabilities within the affected area.

4. Compile damage information obtained from assessment teams, the telecommunications industry, the local/county emergency management director and other city/county/State agencies and report that information through ESF 5, Emergency Management.

5. Assess the need for and obtain telecommunications industry support as required.

6. Prioritize the deployment of services and equipment based on available resources and critical needs.

7. Coordinate communications support to all governmental, quasi-governmental and volunteer agencies as required.

8. Maintain the WEM Duty Officer System on continuous a basis as the state point-of-contact for emergency reporting.

9.   Receives and disseminates, on a 24-hour basis, warning information statewide and locally at the request of the local jurisdiction through the Primary and Alternate Warning points.

10.   Direct the use of an alternative means such as DOJ's TIME System and the EAS radio relay network to disseminate warning information.

G.   Recovery Activities

1.   Identify State communications assets available to support a recovery mission. Other volunteer and local agencies with communications assets may be requested to contribute assets to the response effort. Industrial resources may also be considered for availability and effectiveness. Furthermore, availability, operational condition, and duration of need must be considered. The logistical requirements necessary to obtain critically needed equipment will also be evaluated.

2.   Prepare and process reports using established procedures, focusing specific attention on after-action reports.

3.   Evaluate and task the transportation support requests for impacted areas.

4.   Generate in a timely manner, information to be included in State EOC briefings, situation reports, and/or action plans.

5.   Plan and prepare the notification systems to support the establishment of staging areas, distribution sites, a Disaster Field Office, Recovery Centers, Joint Information Centers, the deployment of strike teams, mutual aid teams, and other local, State, and federal recovery facilities and emergency workers in the impacted area.

6.   Assign and schedule sufficient personnel to cover an activation of the State Emergency Operations Center for an extended period of time.

7.   Maintain appropriate records of work schedules and costs incurred by ESF 2 agencies during an event.

IV. RESPONSIBILITIES

A.   Primary Agencies

1.   Wisconsin Emergency Management

   a.   Overall responsibility for planning and coordinating the emergency telecommunications, warning and information technology programs within the state, including assistance to local jurisdictions.

   b.   Coordinate and maintains a statewide communications and warning capability and provides warning of impending emergencies or disasters to affected political subdivisions.

c. Operates and maintains the Primary State Warning Point during normal business hours and after hours back up by Wisconsin State Patrol.

d. Work with commercial telecommunications companies to restore telecommunications capabilities and services.

e. Coordinates the acquisition and deployment of additional telecommunications equipment, personnel and resources necessary to establish temporary communications capabilities within the affected area(s).

f. Maintains continuous preparedness and response capabilities through a 24-hour Duty Officer system.

g. Supplements state emergency communications systems requirements within capabilities.

h. Activates and issues EAS messages as requested by the Governor or Governor's designated authority.

B.   Support Agencies

1. Department of Administration (DOA), Division of Enterprise Technology

   Overall responsibility for planning and coordinating the information technology program for state agencies.

2. Department of Transportation – Division of State Patrol

   a. Operates the Alternate State Warning Point, in accordance with the procedures in the NAWAS Operations Handbook or when designated by the Administrator of WEM during an emergency or disaster.

   b. Support disaster operations as requested by utilizing the agency's personnel and communications equipment throughout the state. See Appendix 1 Tab B, State of Wisconsin, Mutual Aid Radio Channels.

   c. Staff the communications centers at the level dictated by the situation.

   d. Provide 24-hour staffing at the EOC as requested.

   e. Provide technical assistance for the restoration of communications systems.

3. Department of Natural Resources

   a. Support disaster operations as requested by utilizing the agency's stand-alone communications network. See Appendix 1, Tab F, Wisconsin DNR Radio System.

   b. Staff communications centers at level dictated by the situation.

      c.   Maintain 24-hour duty officer system.

4.   Wisconsin Department of Justice

      a.   Utilize the law enforcement teletype (TIME) network to disseminate emergency information to Wisconsin law enforcement agencies.

      b.   Utilize the TIME system to pass severe weather warnings throughout the state.

5.   Wisconsin Educational Communications Board

      a.   Utilize the statewide public radio and television network to support the activation of the state EAS.

      b.   Provide technical support and tower space for the NOAA weather radio network.

6.   Department of Health and Family Services

      a.   Provide guidance to Wisconsin hospitals, air and ground ambulances and Emergency Medical Service (EMS) providers regarding the appropriate frequencies and networks to support their activities.

      b.   Response by Division of Public Health (DPH) includes: collecting, reviewing, disseminating and tracking epidemiology information as needed via the Health Alert Network (HAN) or other sources; monitoring conditions from scene; and reviewing and disseminating information as needed to ensure safety of responders and citizens.

7.   All Other State Agencies

Provides internal telecommunications and information system support to the organization to return the agency to its day-to-day activities following an emergency or disaster.

8.   Federal Government

Provides a national telecommunications system, including NAWAS, capable of connecting state, federal, and commercial systems for appropriate emergency operations and to other Federal Government Agencies and other federal systems below:

      a.   National Warning Center

      Operates, directs and controls NAWAS except when emergency or disaster situations exist only in Washington State.

      b.   National Earthquake Information Center

      Issues seismic activity advisories and confirmations.

c.   National Weather Service

Issues forecasts and weather related watches or warnings.

9.   Telecommunications Service Providers

Provide technical support and repair/replacement of telecommunications systems to local jurisdictions.

10.   County Emergency Management Organizations

Assures that local jurisdiction communications systems can be utilized from or to the local jurisdiction EOCs and mobile facilities.

a.   Primary Warning Point

(1)   Determines methods of conveying warning to citizens.

(2)   Prepares, maintains, and exercises warning plans, SOPs, and call lists.

(3)   Trains all personnel staffing a warning point in the reception and dissemination of warning information.

(4)   Tests local jurisdiction warning fan-out devices.

(5)   Maintains warning point records.

(6)   Maintains a continuing record of the status of the warning system and advises the local jurisdiction emergency management director of any deficiencies.

b.   Non-NAWAS Relay Warning Points

(1)   Responds to state tests of the warning network in accordance with the Statewide Warning Fan-out.

(2)   Trains personnel in the receipt and dissemination of warning information.

(3)   Tests local jurisdiction procedures and warning systems.

(4)   Maintains a continuing record of the status of local jurisdiction warning systems and advises the local jurisdiction emergency management director of any deficiencies.

11.   Volunteer Agencies

- Wisconsin Amateur Radio Emergency Service (ARES)/Radio Amateur Civil Emergency Service (RACES)
- Civil Air Patrol

V.   RESOURCE REQUIREMENTS

Local jurisdictions state, federal, and other supporting agencies should develop and make available, when necessary, the requisite personnel and equipment to fulfill roles and responsibilities identified in this ESF. As a minimum, all agencies should expect to sustain immediate operations.

VI.   REFERENCES (located in EOC)

A.   Chapter 166, Emergency Management.

B.   National Response Plan (December, 2004).

C.   Wisconsin Emergency Medical Services Communications Plan.

VII.   ACRONYMS

See Wisconsin Emergency Response Plan, Basic Plan, Appendix 7.

VIII.   APPENDICES

Appendix 1, Telecommunications and Information Systems

Tab A   Priority Channels for Mutual Aid, Interoperability and Direction and Control

Tab B   State of Wisconsin Mutual Aid Radio Channel (MARC)

Tab C   Wisconsin NOAA Weather Radio Network

Tab D   State Owned Tower Sites

Tab E   Volunteer Emergency Communications Support (VECS) Plan, March 2004

Tab F   Wisconsin DNR Radio System

Tab G   Wisconsin WISPERN

Tab H   Wisconsin State Patrol Tower Sites

Tab I   Wisconsin EAS Local Areas

APPENDIX 1
TAB A
PRIORITY CHANNELS FOR MUTUAL AID, INTEROPERABILITY AND DIRECTION AND CONTROL

WISCONSIN VHF MUTUAL AID CHANNELS

The communications interoperability standard for all Wisconsin public safety agencies operating on the VHF frequency band is to equip all mobile and portable radios with the appropriate discipline specific channel(s) and the MARC and WISTAC channels.

TX FREQ	TX TONE	RX FREQ	RX TONE	NAME	STATE CALLSIGN	USE
155.475	CSQ	155.475	CSQ	WISPERN	KA6570	Law Enforcement
155.370	CSQ	155.370	CSQ	POINT	KA6570	Law Enforcement
154.295	CSQ	154.295	CSQ	FIRECOM	KO2099	Fire
155.340	CSQ	155.340	CSQ	STATE EMS	KNJT265	EMS
156.000	136.5	156.000	136.5	WEM CAR	KGT483	Emergency Management
153.845	136.5	151.280	136.5	MARC1	WNPG812	All Public Safety
151.280	136.5	151.280	136.5	MARC2	WNPG812	All Public Safety
154.265	88.5	154.265	88.5	WISTAC1	KO2099	All Public Safety
154.010	71.9	154.010	71.9	WISTAC2	KO2099	All Public Safety
154.130	82.5	154.130	82.5	WISTAC3	KO2099	All Public Safety

800 MHz MUTUAL AID CHANNELS

The communications interoperability standard for all Wisconsin public safety agencies operating in the 800 MHz frequency band is to equip all mobile and portable radios with the following mutual aid channels.

TX FREQ	TX TONE	RX FREQ	RX TONE	NAME	STATE CALLSIGN	USE
866.0125	156.7	821.0125	156.7	ICALL	None	All Public Safety
866.5125	156.7	821.5125	156.7	ITAC1	None	All Public Safety
867.0125	156.7	822.0125	156.7	ITAC2	None	All Public Safety
867.5125	156.7	822.5125	156.7	ITAC3	None	All Public Safety
868.0125	156.7	823.0125	156.7	ITAC4	None	All Public Safety
866.0125	156.7	866.0125	156.7	ICALLD	None	All Public Safety
866.5125	156.7	866.5125	156.7	ITAC1D	None	All Public Safety
867.0125	156.7	867.0125	156.7	ITAC2D	None	All Public Safety
867.5125	156.7	867.5125	156.7	ITAC3D	None	All Public Safety
868.0125	156.7	868.0125	156.7	ITAC4D	None	All Public Safety

The ICALL channel shall be used to contact other users in the Region for the purpose of requesting incident related information and assistance. If necessary, the calling party will be asked to move to one of the ITAC channels for continuing incident operations or other interoperability communication needs. This channel can be implemented in full repeat mode.

The ITAC channels are to be used primarily for coordination activity between different agencies in a mutual aid situation, or emergency activities of a single agency. Incidents requiring multi-agency participation will be coordinated over these channels by the agency controlling the incident. These channels can be implemented in full repeat mode.

All ten interoperability channels cited above shall be controlled by sub-audible tone 156.7 Hz. All interoperability repeaters shall have an input and output tone of 156.7 Hz.

APENDIX 1
TAB B
STATE OF WISCONSIN MUTUAL AID RADIO CHANNEL (MARC)

DESCRIPTION
The Wisconsin Mutual Aid Radio Channel (MARC) was established to provide a common radio frequency to be used statewide by state and local public safety agencies during periods of man-made or natural disasters and other emergencies where interagency coordination is required.

It operates under appropriate Federal Communications Commission (FCC) Rules and Regulations and is administered by the State of Wisconsin through the State Patrol Bureau of Communications. The Wisconsin Chapter of the Association of Public Safety Communications Officials (APCO) Interagency Communications Committee (Committee) exercises general supervision and disciplinary control.

ELIGIBILITY
Participation in MARC is open to all public safety and local government agencies, including law enforcement, fire, EMS, DPW, highway maintenance, emergency government, forestry, and other state agencies.

APPLICATION PROCEDURES
Requests for authorization on MARC will be submitted to the Wisconsin State Patrol Bureau of Communications, POB 7912, Madison WI 53707-7912. All mobiles will be operated under the State held license WNPG812. Requests should include the number of radios to be authorized. Requests for mobile authorizations from eligible agencies will be processed immediately.

All base and repeater stations will be licensed by the local agency. Requests for authorizations for base, repeater, portable repeater, and control stations should include the FCC license application form and will be approved by the Committee.

USAGE
MARC is a mutual aid channel for use by all public safety and local government agencies involved in any incident requiring a multi-discipline response where no other common frequency exists between responding agencies. This channel is for on scene command and coordination. It is intended that this channel will facilitate communications when the Incident Command System is used. Emergency traffic has priority.

MARC supports both repeater and simplex (radio to radio direct) operation. The repeater channel name is MARC 1 and the simplex channel name is MARC 2.

MARC 2 is the common landing zone coordination channel for communications between medical helicopters responding to an incident scene and ground units.

MOBILES AND PORTABLES
MARC is designed primarily for short-range mobile-to-mobile use. All public safety and local government VHF radios should include the MARC channels. Authorized mobiles are required to have MARC 2 and are highly encouraged to have MARC 1. MARC is a primary interoperability resource in Wisconsin and there is an expectation that all VHF radios will be equipped with these channels. Mobiles will identify with

the name of their agency and their unit number. All mobile units will identify with the statewide call sign "WNPG812" after each conversation.

BASE STATIONS
Base operation is secondary to mobile use. Base station technical parameters will be limited to that which is necessary to cover the applicant agency's jurisdiction. Patch capability from other channels to/from MARC is not permitted without prior authorization. Base stations may be restricted in some state border **areas due to adjacent state use. Automatic call sign identifiers are not permitted.**

CONTROL STATIONS
Any eligible agency may operate, with approval and licensing, a low power "20 foot rule" control station for use when an area repeater is activated.

REPEATERS
Repeater operation is secondary to mobile use. Each county will be authorized one controlling agency, normally the countywide dispatch center, to provide countywide repeater coverage. This agency must also provide 24 hour monitoring of the channel. Repeaters and the associated communications centers are required to monitor both MARC 1 and MARC 2. **Repeaters will be disabled until requested to be turned on by an Incident Commander or other user. Only one repeater may be turned on in a given area at one time**. All communications centers operating repeaters are required to cooperate to minimize interference and must have the ability to turn the repeater function on and off at any time. Base station technical parameters will be limited to that which is necessary to cover the applicant agency's jurisdiction. Long term patches from other channels to/from MARC are not permitted without prior authorization. Repeaters may be restricted in some state border areas due to adjacent state use. **Automatic call sign identifiers are not permitted.**

PORTABLE REPEATERS
Any eligible agency may operate, with approval and licensing, a low power portable repeater for temporary use at a specific incident.

TECHNICAL INFORMATION
Mobiles and Portables:
      MARC 1 transmit 153.845, receive 151.280, CTCSS 136.5
      MARC 2 transmit 151.280, receive 151.280, CTCSS 136.5
Control Stations:
      MARC 1 transmit 153.845, receive 151.280, CTCSS 136.5
Base Stations:
      MARC 2 transmit 151.280, receive 151.280, CTCSS 136.5
Repeaters:
      MARC 1 transmit 151.280, receive 153.845, CTCSS 136.5
      MARC 2 transmit 151.280, receive 151.280, CTCSS 136.5

All operation is analog wideband FM. Narrowband operation will be implemented in the future in compliance with FCC requirements and a statewide migration plan. Voice privacy/encryption, paging/signaling, and digital operation are not permitted.

For additional information or authorization, contact the Wisconsin State Patrol Bureau of Communications, the state frequency coordinator, or the Wisconsin Chapter of APCO.

10/04

### *MUTUAL AID RADIO CHANNEL REPEATER CONTACTS*

AGENCY	LOCATION	DISPATCH	SUPERVISOR
Chippewa County	Eagle Point	715-726-7701	Tim Blizek
Columbia County	Portage	608-742-4166	Tracy Morrical
Dane County	Madison	608-267-3913	Duke Ellingson
Eau Claire County	Fall Creek	715-839-4972	Pam McInnis
Jackson County	Black River Falls	715-284-2656	Steve Schreiber
Kenosha County	Bristol	262-605-5001	Dolly Brennan
La Crosse County	La Crosse	608-785-9634	Jeanette Lenser
Juneau County	Mauston	608-847-5649	Teri Wafle
Marinette County	Portable/Marinette	715-732-7660	Erik Lowman
Outagamie County	Appleton & Binghamton	920-832-2264	Mary Schuelke
Ozaukee County - future	Port Washington	262-284-7172	Wendy Maechtle
Pierce County	Ellsworth & Portable	715-273-5051	Mike Knoll
Racine County	Yorkville	262-636-3213	Bob Kacmarcik
Rock County - future	Janesville	608-757-2244	Dave Sleeter
Sauk County - future	North Freedom	608-355-4495	Dena Wienke
Shawano County	Portable/Shawano	715-526-3111	Jerry Thorpe
St. Croix County	Hammond	715-386-4701	Gary Kollman
Waupaca County	Scandinavia	715-258-4466	Gary Heschke
Winnebago County	Omro	920-424-0061	Kathy Biggar
Walworth County	Elkhorn	262-741-4400	Jay Maritz
State Patrol District 1	Janesville	608-846-8521	Linda Palmer
State Patrol District 3	Chilton Mauthe Lake/Dundee Mayville	920-929-3703	Nancy Olig
State Patrol District 4	Wittenberg	715-845-7857	Tom Wrysinski
Dept. of Natural Resources	Portable/Woodruff	715-358-9216	Dave Christenson
WI Emergency Management	Portable/Eau Claire	800-943-0003	Rick Risler

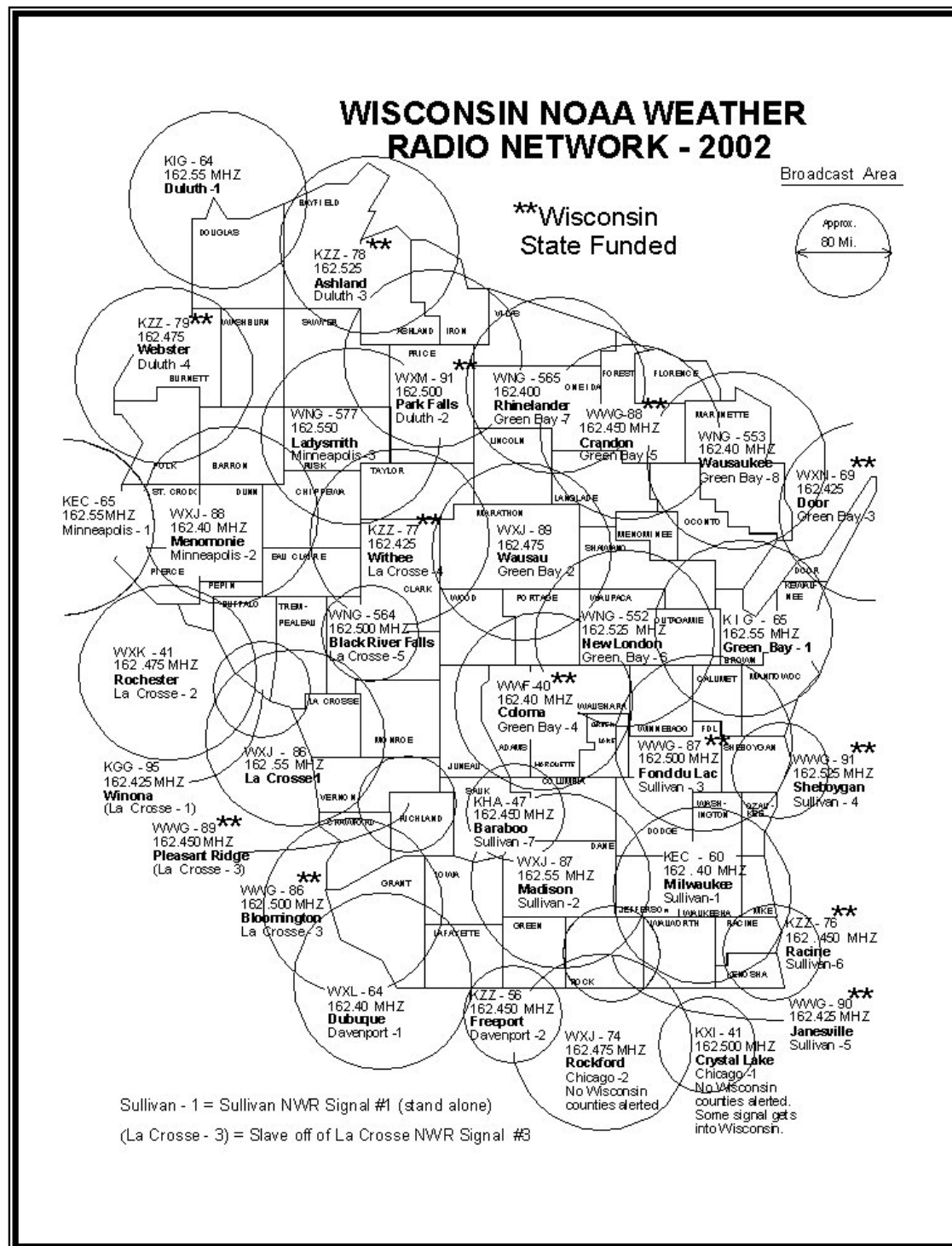# *State of Wisconsin*
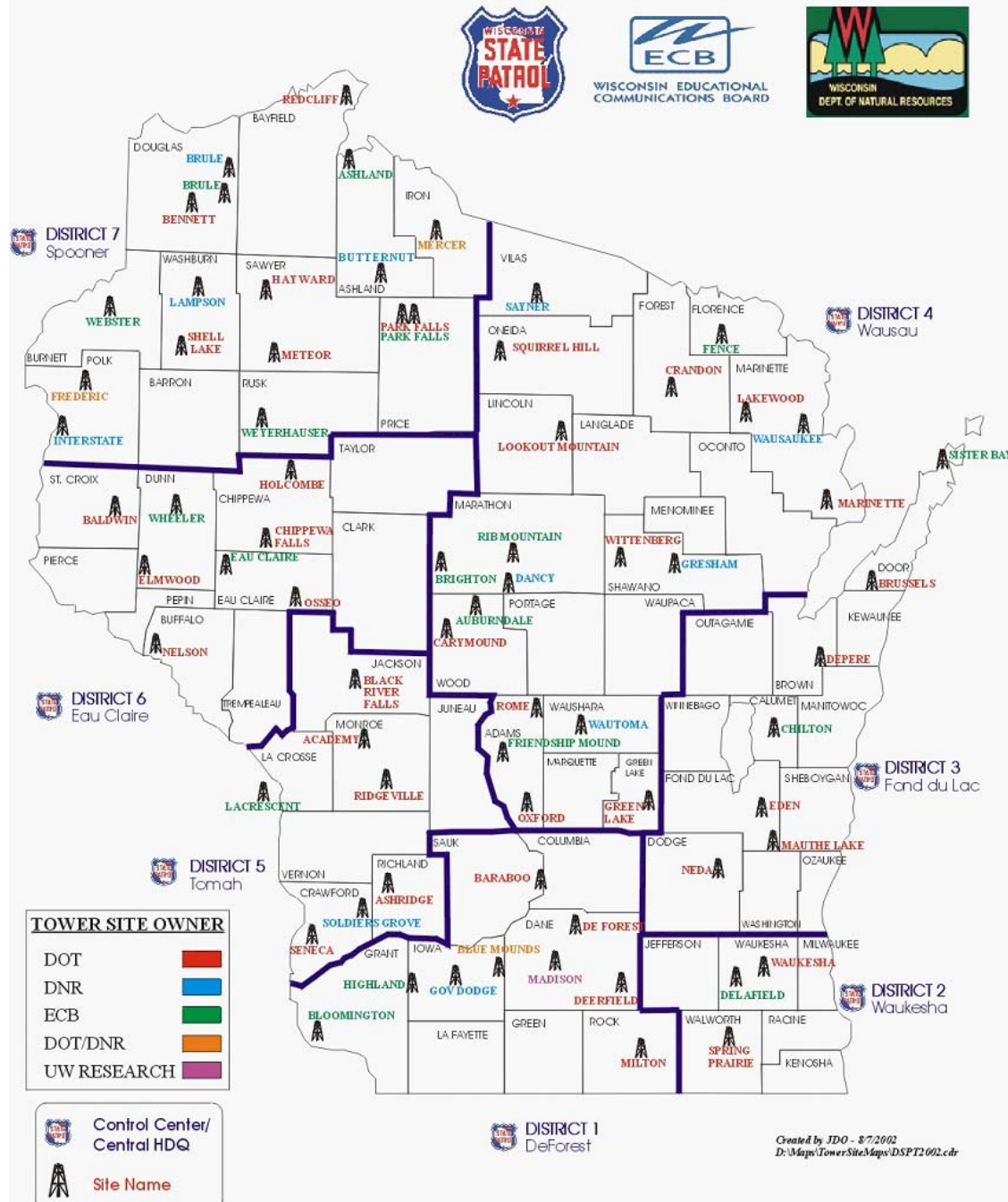# *Mutual Aid Radio Channel*

MARC Repeater Locations

Active Repeaters

Future Repeaters
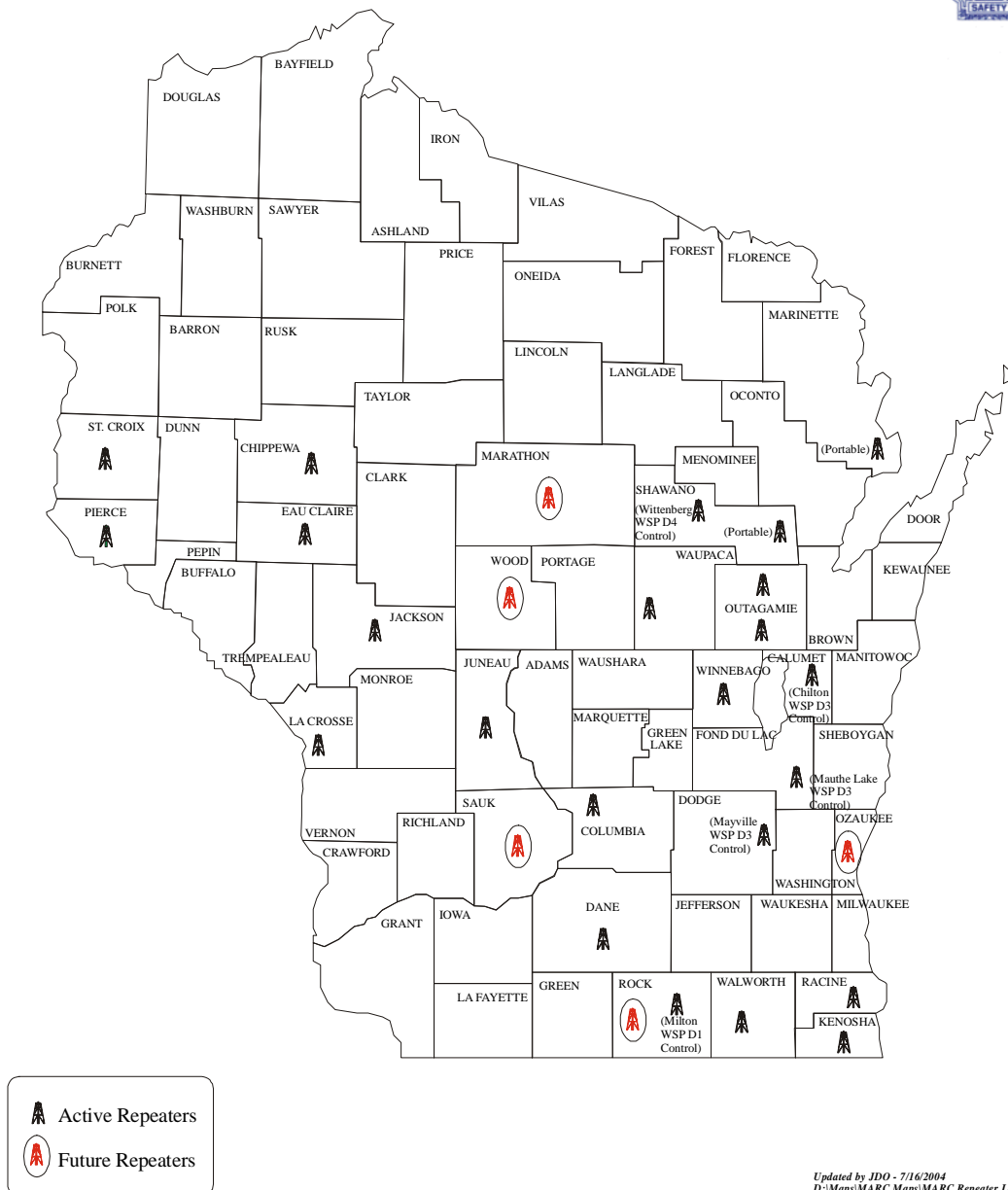
Updated by JDO - 7/16/2004
D:\Maps\MARC Maps\MARC Repeater Location Map.cdr

APPENDIX 1
TAB C
WISCONS NOAA WEATHER RADIO NETWORK

APPENDIX 1
TAB D
STATE OWNED TOWER SITES

Wisconsin
State Owned Tower Sites

APPENDIX 1
TAB E
VOLUNTEER EMERGENCY COMMUNICATIONS SUPPORT PLAN
(VECS PLAN), MARCH 2004

In case of a national or state emergency, the following Activation Plan will be implemented, upon the request of the Administrator, Wisconsin Emergency Management, or the WEM Duty Officer.
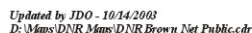
1) The hamshack callsign for all modes is WC9AAG.
2) Upon activation, Sam Rowe, KG9NG, will coordinate the staffing of the hamshack. ARES/RACES/MARS volunteers will operate the hamshack. HF ARES/RACES operator support for the Wisconsin National Guard will be coordinated through the WEM Communication and Warning Officer; MARS support will be in accordance with their Memorandum of Understanding with the Wisconsin National Guard.
3) Radio frequencies will be monitored as follows:
   a) HF:
      i) Voice: Primary 3996 kHz LSB, 1st Alt 3975 kHz LSB, 2nd Alt 7250 kHz LSB, 3rd Alt 7245 kHz LSB
         PacTOR: Primary 7087 kHz LSB, CW: 3662
      ii) PSK63: 3560 kHz LSB, Alt: 7027 kHz LSB
         Note: HF phone frequencies will be adjusted for changing band conditions. Download free Digipan software.
   b) VHF voice repeaters:
      Madison: 147.150 MHz (PL 123.0), Baraboo: 146.880 MHz (PL 123.0), Manitowoc: 145.190 MHz (PL 107.2)
   c) VHF/UHF ARES/RACES MSYS BBS Packet Station WEMBBS (WC9AAG) – 24/7 operation:
      145.610 MHz or 446.100 MHz
      Packet Mail: **wc9aag@wc9aag.en53ja.wi.usa.noam**
      Node: ARWEM (WC9AAG-11)
   d) APRS: 144.390 MHz
   e) UHF/6M voice:
      Southern Wisconsin Repeater Group
      Madison: 443.400 MHz (PL 123.0), North Freedom: 443.675 MHz (PL 114.8)
      W.I.N. UHF Backbone Network - Baraboo: 443.900 MHz   (PL 100.0)
   f) Emergency bulletins, frequency updates, situation reports, and the like will be disseminated using the HF Badger Emergency Network (BEN): Primary: 3985 kHz LSB, Alternate dependent on band conditions.
4) WEM hamshack contacts:
   a) Routine e-mail: **wc9aag@dma.state.wi.us**
   b) EMERGENCY/DRILL e-mail: mailto:dma.hams@dma.state.wi.us
   c) Phone with voice mail, 24/7
      1-608-242-3323 or 1-800-344-9219 x 23323
5) State Chief RACES Radio Officer / ARRL WI SEC
   a) William Niemuth, KB9ENO
      bniemuth@new.rr.com or (H)1-920-779-0611. (B)1-920-721-06278, (C) 1-920-475-4819
   b) WI ARES/RACES website http://www.wi-aresraces.org/
6) MARS contacts:
   a) Air Force:
      Andrew C. Mueller, AFA3QP / AFF3WI / WA9BPG
      wa9bpg@ticon.net or 1-262-549-0393
   b) Army:
      Richard Peitso, KA9CIF / AAT5KK / AAA5WI
      rpeitso@pressenter.com 1-715-425-2875
   c) Navy – Marine Corps:
      Ron Henry, NNN0GCE/NNN0VAG/N9KWW
      n9kww@wi.rr.com or 1-262-786-7512
7) Civil Air Patrol:
   Colonel Michael Archer
   wi-caplo@netscape.net or 1-608-242-3069/3057
8) WEM Points` of Contact:
   Alan L. Wohlferd – Communication and Warning Officer
   alan.wohlferd@dma.state.wi.us or 1-608-242-3250
   Mack Brophy N9NTB - WEM Amateur Radio Liaison/State Hamshack Manager (Plan Author)
   mack.brophy@dma.state.wi.us or 1-608-242-3323

NOTE: The frequencies listed in this plan are implemented upon hamshack activation.   At other times the APRS frequency 24/7 is 144.390 MHz. The WEM packet frequencies are MSYS bbs 24/7 145.610 MHz and 446.100 MHz.   VHF/UHF repeaters will be changed to coincide with the site of the emergency.
Hams are encouraged to prepare to implement Winlink 2000 (see http://www.winlink.org/Emergency.htm) once the WI Winlink 2000 network is designed and published. Winlink 2000 will then replace above PacTOR. (This plan supersedes previous W.E.M. EOC Radio Room (Hamshack) Activation Plan dated 11 Aug 04.)
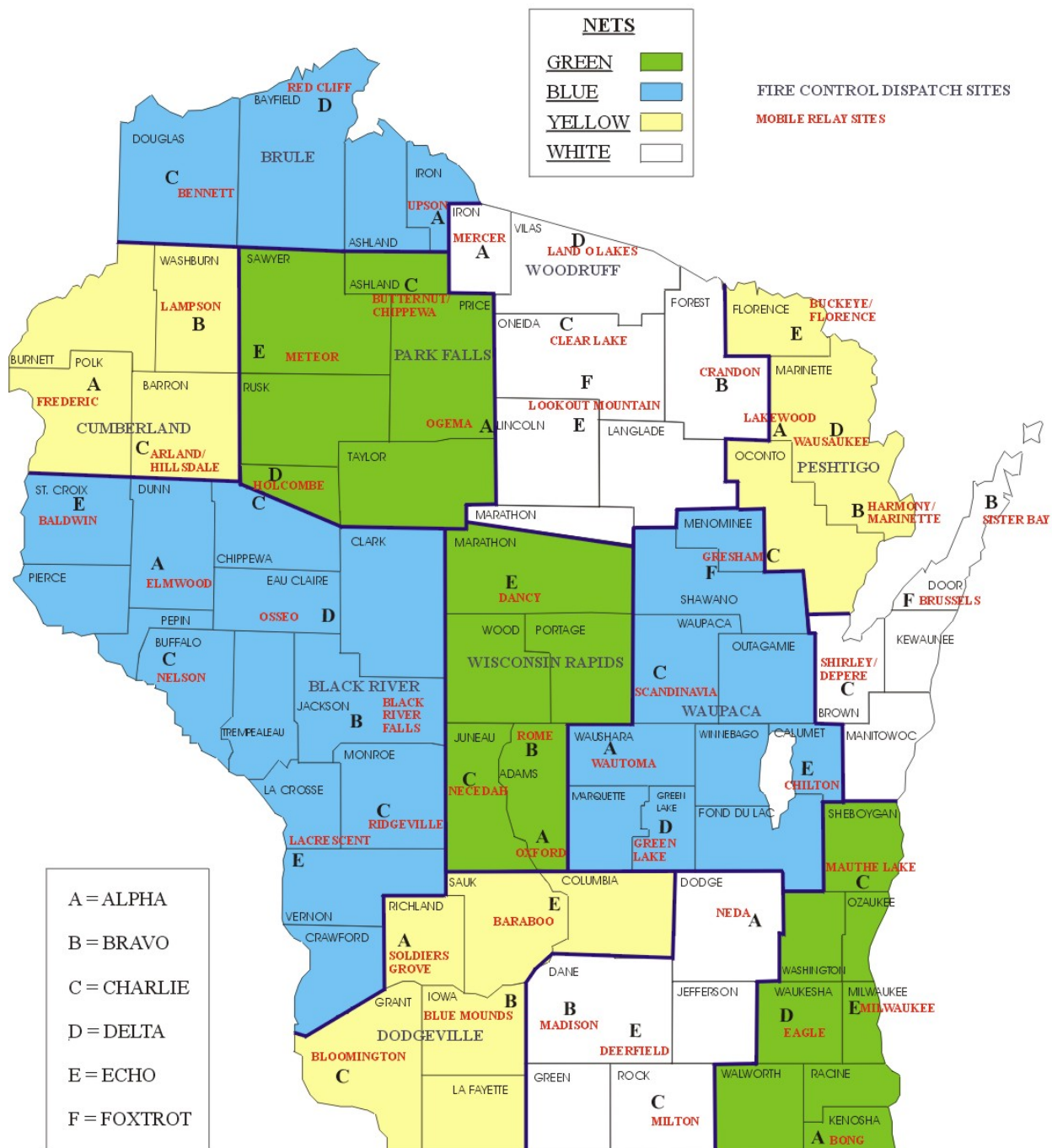
**APPENDIX 1
TAB F
WISCONSIN DNR RADIO SYSTEM**

Wisconsin

DNR Brown Net Simplex and Repeaters

BROWN REPEATERS:

DEVILS LAKE (E)

GOV. DODGE (B)

WYALUSING (C)

YELLOWSTONE (A)

BLUE MOUNDS (D)

B. RIVER FALLS (C)

PERROT (A)

WHITEWATER (D)

MAUTHE LAKE (C)

GREEN REPEATERS:

NELSON DEWEY (E)

Updated by JDO - 10/14/2003
D:\Maps\DNR Maps\DNR Brown Net Public.cdr

Wisconsin
DNR Mobile Relay Tower Sites

NETS	
GREEN	
BLUE	
YELLOW	
WHITE	

FIRE CONTROL DISPATCH SITES

MOBILE RELAY SITES

A = ALPHA

B = BRAVO

C = CHARLIE

D = DELTA

E = ECHO

F = FOXTROT

Updated by JDO – 3/28/2002
D:\Maps\DNR Maps\DNR Mobile Relay Public Ver.cdr

APPENDIX 1
TAB G
WISCONSIN WISPERN

APPENDIX 1
TAB H
<u>**WISCONSIN STATE PATROL TOWER SITES**</u>
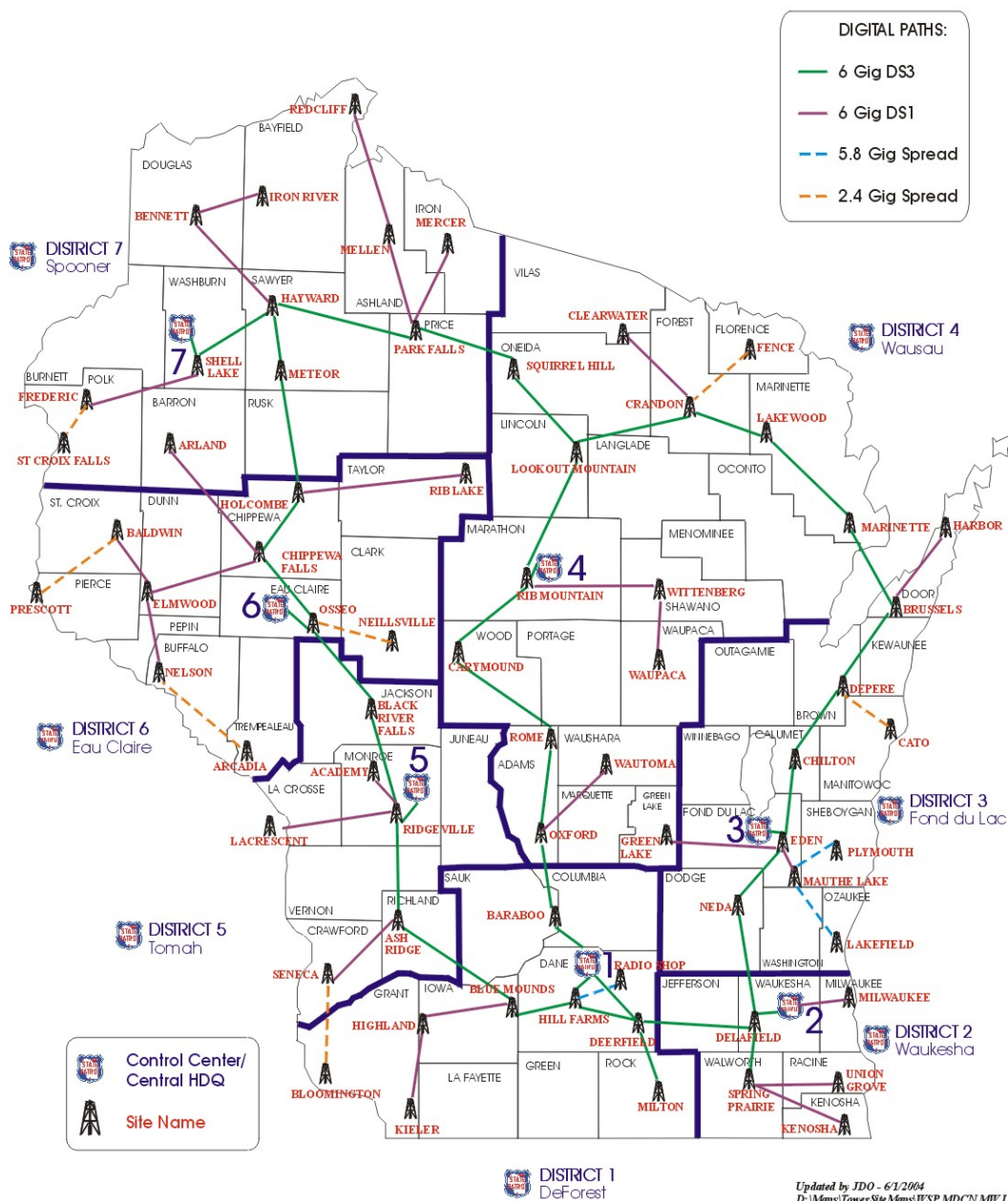
APPENDIX 1
WISCONSIN EAS LOCAL AREAS
TAB I